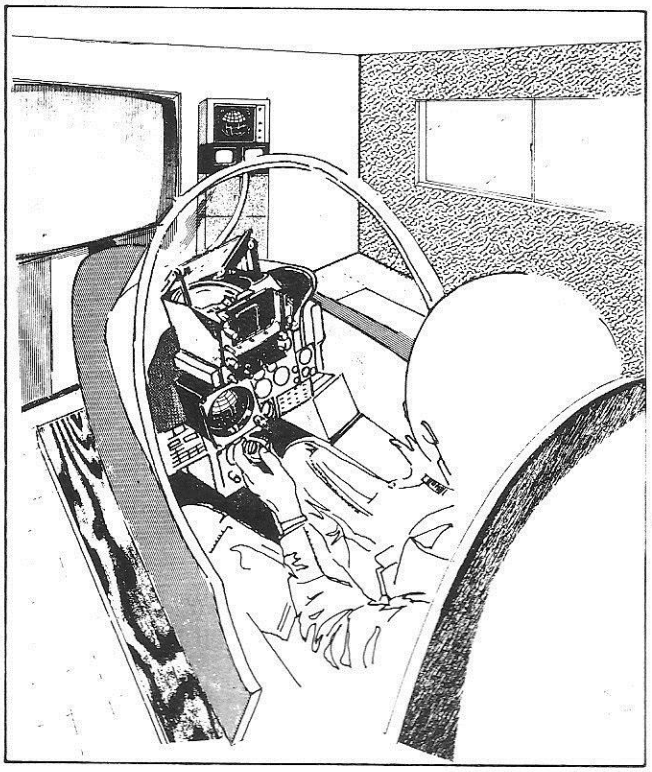
Elbit MILITARY PRODUCTS

W.D.SIM.



WEAPON DELIVERY SIMULATOR

INTRODUCTION

The growth in complexity and cost of modern aircraft systems has brought about the need for a sophisticated simulator to serve as a low-cost, maintenance-free pilot trainer in various air-to-air (A/A) and air-to-ground (A/G) attack methods.

The Weapon Delivery Simulator (WDS) is software oriented and can therfore be adapted to any kind of attacking or target aircraft, and to any kind of weapon delivery system. It is designed to train fighter pilots in A/A combat with guns and missiles, and in A/G attack with rockets and bombs.

GENERAL DESCRIPTION

The WDS consists of three major subsystems:

- Cockpit
- Display System
- Computing and Control System

COCKPIT

The cockpit is similar to that of a modern fighter aircraft. It is equipped with a canopy, flight controls, and an adaptable instrument panel to accommodate various aircraft models.

The cockpit consists of the following parts:

- Two-axis control stick that can be trimmed in pitch and roll
- Rudder pedals with adjustable positions
- Throttle with an afterburner position and an air brake switch
- Computer-controlled torque motor connected to the control stick to provide a realistic feel

DISPLAY SYSTEM

A TV monitor with a large collimating lens is installed in front of the cockpit to give the pilot the sensation of looking through the front window of a real cockpit.

The monitor displays:

- Target aircraft image, taking into account the aircraft type and changes in its relative position and attitude
- Head Up Display (HUD) information, consisting of weapon delivery symbology and flight directives
- Synthetic terrain image, giving the pilot the feel of the real world, and an indication of his relative attitude and velocity with respect to the ground

COMPUTING AND CONTROL SYSTEM

The computing and control subsystem is based on a minicomputer, enhanced by a high-speed

COMPUTING AND CONTROL SYSTEM (Cont'd)

arithmetic unit. The mainframe includes a real-time clock, a power-fail and auto-restart unit, a bootstrap loader, and interface units. A multiplex analog-to-digital converter and a multi-channel digital-to-analog converter provide the interconnection between the computer and the cockpit controls, sensors and instruments.

TRAINING MODES

The WDS is designed for training pilots in the following modes of operation:

- A/A
  - Guns: Snap Shoot
    Lead Computing Sight (LCOS)
    All kinds of gunsight aiming methods
  - Missiles: Infra-red missile launching
- A/G — Various kinds of attack modes (i.e., CCIP, TOSS, D/T, etc.), for many types of weapons
- NAVIGATION
  Navigation display

PRINTOUT RESULTS

After each run the digital plotter will generate a printout of the results of the training, indicating in the A/A mode the number of hits and miss distances, and in the A/G mode the impact points on the target.

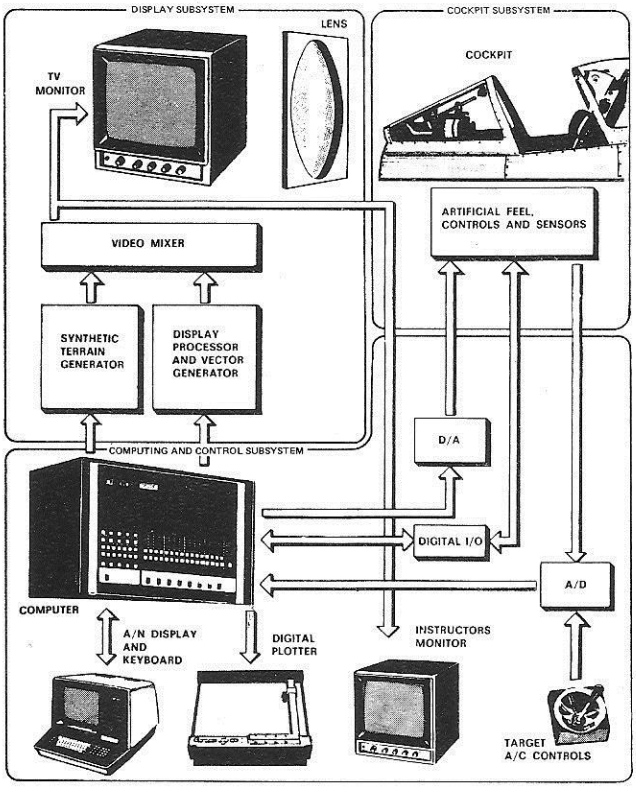
ADVANTAGES

- Savings on expensive flight time
- Enhancement of pilot training
- Simple to operate
- Easily adapted to various aircraft features and targets
- Low purchase and maintenance cost
- Reliable

ELBIT EXPERIENCE

- Elbit is well experienced in the development and production of simulators
- Elbit's "know-how" in this subject area is based on operational flight experience
- Elbit is a software and hardware house, thus making the WDS a low-cost system

WEAPON DELIVERY SIMULATOR - MAJOR SUBSYSTEMS



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